Maxiwell Luo

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Work Experience

IBM Aug. 2021 – Present
Backend Developer Rochester, MN
- Developed robust device drivers for the IBM i operating system using C++, for both physical (NVIDIA, Intel, etc.) and virtual (link aggregation, vNIC, etc.) NICs
- Migrated device driver testing scripts to an open-source Python framework, expanded test coverage, and improved logging/debugging capabilities to develop a cohesive testing tool for device driver developers
- Collaborated with internal and external teams to provide support for clients by providing analyses and fixes

8i May 2020 – Aug. 2020
Software Engineering Intern Chicago, IL
- Developed features for an internal MPEG-DASH player to support the company's proprietary 3D mesh, video, and audio codec including seek, caching, and adaptive bitrate selection using the C++ Qt Framework

Eagle Seven May 2019 – Aug. 2019
Software Development Intern Chicago, IL
- Wrote software to calculate network performance metrics of high-frequency trade engines
- Built a real-time dashboard using InfluxDB and Grafana to improve the automation, comparison, and real-time tracking capabilities of the performance testing framework

Education

University of Illinois at Urbana-Champaign Aug. 2017 – May 2021
Bachelor of Science, Computer Science + Master of Computer Science Urbana-Champaign, IL
- Operating System Design; Distributed Systems; Communication Networks; Applied Parallel Programming
- Computer Security I/II; Advanced Computer Security; Applied Cryptography; Operating System Security
- Machine Learning; ML for Sys, Networks, & Security; Algorithms
- Interactive Computer Graphics; UI Design; Top Down Video Game Design; Game Dev Process
- Teaching Assistant for CS 225 (Data Structures) and CS 126 (Software Design Studio)
  ‣ Lead discussions and code reviews to foster educational dialogue on data structures and best coding practices
  ‣ Provided continuous updates to the course website to provide students with up-to-date information
  ‣ Answered questions and debugged student solutions in office hours

Projects

server-manager Mar. 2023 – Aug. 2023
Creator GitHub
- Developed a Discord bot in Rust utilizing their HTTPS/REST API to allow members of a Discord server to manage multiple Minecraft servers on a host computer

Sheet Sep. 2021 – Jan. 2022
Contributor GitHub
- Identified the cause for authentication and database issues that caused an outage of an open-source Node application.
- Communicated with the maintainer and developed a fix that was merged into the project.
- Reviewed pull requests made by other developers and helped them merge their own fixes to the project.

Skills

- **Proficient** in C/C++, Python
- **Intermediate** knowledge of Rust, Java, HTML/CSS, Javascript (Angular), InfluxDB, Grafana, Unity, Unreal Engine, WebGL, Android app development, Discord app development, Qt Framework, Flutter, Chinese, Japanese
- **Basic** skills with OCaml, x86 Assembly, Verilog